The listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 to 30 (Canceled).

Claim 31 (New): A nanoparticular carbon structure (NCF) with carbon in hexagonal and/or cubic modification as well as with oxygen, hydrogen, nitrogen and non-combustible admixtures which comprise nanoparticular, fullerene formations and are stabilized.

Claim 32 (New): The NCF as set forth in claim 31, comprising the following composition of its elements in mass percent: carbon 86.0 to 98.0 %, oxygen 1.0 to 6.0 %, hydrogen 0.5 to 1.0 %, nitrogen 0.5 to 2.0 % and non-combustible admixtures 0 to 2.0 %.

Claim 33 (New): The NCF as set forth in 31, wherein the material particles and clusters have ogival shapes on the inner and outer surface of which open pores are localized.

Claim 34 (New): The NCF as set forth in claim 31, wherein open pores have dimensions of 12 to 100 Å according to BET.

Claim 35 (New): The NCF as set forth in claim 31, comprising a volume adsorption of at least 300 J/g, preferably of at least 500 J/g and up to 700 J/g.

Claim 36 (New): The NCF as set forth in claim 31, comprising a refraction index in excess of 2.55.

Claim 37 (New): The NCF as set forth in claim 31, comprising an absorption limit of the material in the UV range of 220 up to more than 300 nm as well as in the near infrared of more than approximately 2810 cm^{-1}.

Claim 38 (New): The NCF as set forth in claim 31, wherein it is in the form of a dark grey powder.

Claim 39 (New): The NCF as set forth in claim 38, wherein its specific weight in the noncompacted state ranges approximately between 2.3 and 3.0 g/cm^3.

Claim 40 (New): The NCF as set forth in claim 31, wherein in X-ray phase analysis, it only delivers one single phase peak, namely that of the cubic modification of the carbon (diamond).

Claim 41 (New): The NCF as set forth in claim 31, wherein a formation of central crystals of the cubic grid phase is surrounded by a carbon shell cage, said shell cage consisting of a regular arrangement of pentagons and hexagons.

Claim 42 (New): The NCF as set forth in claim 31, wherein the monocrystals appear colorless.

Claim 43 (New): The NCF as set forth in claim 31, comprising optical isotropy, light emission at a certain wavelength and with increased refraction index of up to more than 2.55 and adsorption limits in the UV range (220 nm up to more than 300 nm) and near infra-red (>2810 cm) for use in polymer, aqueous and inorganic compound systems for holographic, spatial and planar optical mapping and imaging.

Claim 44 (New): A fullerene shell ("onion-like carbon") in which about 1,800 to 2,000 carbon atoms comprise in the type of a

container a nanosized core with cubic crystal structure and about 900 to 1,000 surface atoms, preferably comprising NCF as set forth in claim 31.

Claim 45 (New): A method of producing fullerene shells, wherein NCF as set forth in claim 31 is thermally treated in vacuum or in an inert gas atmosphere, in argon atmosphere for example.

Claim 46 (New): A method of producing NCF, more specifically NCF as set forth in claim 31, wherein the initial substances carbon, oxygen, hydrogen, nitrogen and non-combustible admixtures are transformed by an organic energy carrier with negative oxygen balance in a closed volume in inert gas atmosphere under atomic hydrogen plasma and that the reaction product is cooled and stabilized thereafter.

Claim 47 (New): A method of producing NCF with primarily almost monocrystalline morphology, more specifically as set forth in claim 31, wherein a substance combination of organic energy carriers, primarily mixtures of $C_7H_5N_3O_6$ (oxygen value: -73.9 %)

and cyclotrimethylenetrinitramine (oxygen value: -21.6 %) with a mass of 15 kg is brought to chemical conversion with negative oxygen balance in an enclave chamber having a free space volume of 100 m^3.

Claim 48 (New): The method as set forth in claim 47, wherein a short-term physical conversion of the hexagonal carbon crystal grid structure into the cubic structure (diamond grid) as well as into the fullerene spatial grid structure ("cage" structure with $>>C_{240}$) according to the martensite mechanism occurs realizing a topological temperature platform of between 3,000 to 4,500 °C; implementing a local pressure level of at least 4.5 GPa, forming dynamic inverse shockwaves in the range of more than 100,000 atm as well as limiting the short-term physical reaction time of chemical conversion to less than 7.5×10^6s.

Claim 49 (New): The method as set forth in claim 47, wherein for the time of the chemical reaction, an atomic hydrogen plasma is formed to prevent the fullerene structure produced from regraphitizing.

Claim 50 (New): A method of producing NCF with polycrystalline morphological structure (poly-NCF, PNCF), more specifically with NCF as set forth in claim 31, wherein after producing NCF with primarily almost monocrystalline morphology, said NCF is treated using a CVD-assisted sintering process in a vacuum system at pressures ranging between 8.0 and 10.5 GPa and at temperatures ranging from 1,000 to 1,500 °C with subsequent mechanical communition.

Claim 51 (New): The method as set forth in claim 50, wherein a carbon containing carrier gas, preferably methane, is diffused into the spatial pore system of the NCF structures.

Claim 52 (New): A method of producing a nanoparticle-combined NCF compound, wherein the nanoparticles are first dispersed in a polar and slightly viscous solvent and that, for producing the compound, the predispersed substances are combined with a fluid comprising the same solvent.

Claim 53 (New): A lacquer system, more specifically produced in accordance with claim 52, comprising a modification with NCF particles.

Claim 54 (New): Use of NCF particles, more specifically according to claim 31, for modifying the mechanical properties of lacquers (coatings), more specifically of 2K-PUR mat lacquer systems.

Claim 55 (New): A lubricating lacquer system (solid lubricant) with NCF, more specifically with NCF as set forth in claim 31.

Claim 56 (New): Use of NCF, more specifically as set forth in claim 31, for producing a nanoparticle-combined lubricating lacquer system for improving the sliding properties of the lubricating lacquer system.

Claim 57 (New): A nanosuspension (nanocompound) on the basis of poly-NCF with the following composition (values given in percent by weight): poly-NCF about 1.4 %, distilled water about 95 %, Aerosil® Å300 about 3.6 %, Polyridon about 0.007 % and NaOH(s) 0.012 ± 0.004 %.

Claim 58 (New): Use of an aqueous nanosuspension on the basis of poly-NCF, more specifically of poly-NCF as

set forth in claim 57, for high-precision polishing.

Claim 59 (New): Water soluble poly-NCF paste (water-free) with the following substance composition (values given in percent by weight): Poly-NCF about 5.5 %, Aerosil® Å300 about 9.5 % and PEG 400 about 85.0 %.

Claim 60 (New): Use of a water soluble poly-NCF paste (water-free), more specifically of a paste as set forth in claim 59, for high-precision polishing, preferably for end polishing of spherical special stepper optics made from CaF_2 with polishing pads provided with a special pitch coating.

Claim 61 (New): Use of an NCF system as set forth in claim 40 in polymer, aqueous and inorganic compound systems for holographic, spatial and planar optical mapping and imaging.